

REMARKS

Initially, applicant would like to thank the Examiner for the helpful and courteous telephonic interview he conducted with applicant's undersigned representative on November 24, 2004 in conjunction with a Proposed Amendment sent to the Examiner via facsimile transmission on November 18, 2004, including claim amendments similar to those presented above.¹ During such interview the Examiner agreed that the proposed amended claims included features not disclosed by the Shiota and Maruyama references applied in rejections under 35 USC 102(b) in the Office Action, but no agreement was reached as to whether the claim amendments patentably distinguished over the references applied in rejecting claims under 35 USC 103(a) in the Office Action.

Upon entry of the present Amendment, the claims in the application are claims 1-3, 5-9, and 12-23, of which claims 1, 3 and 17 are independent.

In the above proposed amendments, independent claims 1, 3 and 17 are modified to further specifically define that: the airbag comprises a single opening portion into which the gas from the inflator flows; the gas flow path portion comprising a narrow throated gas passageway between the opening portion and the occupant restraint portion; and a size of said at least one penetrating portion being selected as to achieve an appropriate flow rate of the gas from the inflator into the air bag based on size of the air bag. Also, claims 2, 3 and 9 are amended to overcome the rejection of claims 2, 3, 5, 9, 12-15, 19, 20 and 22 under 35 USC 112, second paragraph, and claims 18-23 are amended to more specifically define the features presented therein.

The specification is amended to include the changes previously presented in Amendment-E, but now properly indicated in relation to the substitute specification submitted on September 10, 2003. The specification is further amended to provide an express antecedent basis for the amended language of the claims presented herein, and to

¹ The differences between the amended claims in the Proposed Amendment and the present Amendment-F include that the present Amendment-F defines —a single opening portion—, and also includes the language —an appropriate flow rate ... based on the size of the air bag— in the independent claims.

overcome one minor informality.

Applicant respectfully submits that all of the above amendments are fully supported throughout the original application, including the drawings and the discussion at page 15, line 6 through page 16, line 2. Applicant further respectfully submits that the above amendments do not introduce any new matter into the application.

Still further, applicant respectfully submits that the above amendments overcome the rejection of claims 2, 3, 5, 9, 12-15, 19, 20 and 22 under 35 USC 112, second paragraph, presented at item 3 of the Office Action, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Art Based Rejections

In the Office Action, the Examiner rejects: claims 1-3, 7 and 16-19 under 35 U.S.C. 102(b) as anticipated by Shiota et al. (US Patent 5,427,410); claims 3, 5 and 12-15 under 35 U.S.C. 102(b) as anticipated by Maruyama (US Patent 5,593,179); claims 6, 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shiota; and claims 20-23 are rejected under 35 U.S.C. §103(a) over Japanese 4135940 (of record) in view of Maruyama.

Relative to the Shiota patent, it is the Examiner's position that Shiota's airbag 10 having the cylindrical cloth 108 disposed therein reads on the airbag having at least one penetrating portion or at least one joint portion as defined in claims 1-3, 7 and 16-20, wherein the gas flow path extends continuously from the opening portion, and the same continues to an occupant restraint portion, and hence, the gas flows continuously from the opening portion to the occupant restraint portion through the gas flow path portion. In addition, the Examiner also asserts that the cloth 108 is a penetrating portion, which extends through the gas flow path portion, and that it would have been obvious to include

a plurality of such penetrating portions, such as cylindrical cloth 108, in Shiota's air bag for cumulative effect as an obvious variation of the design.

Regarding the Maruyama's patent, it is the Examiner's position that the air bag device disclosed in this reference includes all of the features set forth in the rejected claims viewing Maruyama's guide member 20 as connected within his air bag as the claimed joint portions, whereas such guide member is disposed only in the gas flow path portion of the airbag as indicated in his Fig. 2.

Regarding the rejection based on Japanese 4135940 (JP '940) in view of Maruyama, it is the Examiner's position that: in JP '940 the portion of the bag between the end openings 2, 2 is both a penetrating portion and a joint portion as defined; it would have been obvious to persons of ordinary skill in the art at the time of the invention to provide the air bag of JP '940 in an instrument panel of a vehicle based on the teachings of Maruyama; in the combination the joint portion between the openings 2, 2 of JP '940 directly connects upper and lower surfaces of the gas flow path portion; and the in the combination the gas flow path portion would be above the instrument panel and substantially cover the upper surface of the instrument panel inasmuch as does applicant's gas flow path portion.

Applicant's Response

Upon careful consideration, and in light of the above amendments to the claims, applicant respectfully submits that each of the Examiner's rejections are overcome, and submits that each of present claims 1-3, 5-9, and 12-23 is allowable over the references of record based on the following.

Initially, applicant respectfully submits that the applied references (whether considered singly or in combination) do not disclose or suggest an air bag as now defined

in the independent claims, i.e., one that comprises a single opening portion at one end thereof into which a gas generated by the inflator flows, a gas flow path portion extending continuously from the opening portion and an occupant restraint portion at an opposite closed end thereof, wherein the occupant restraint portion has a single continuous open space therein when inflated with the gas, is spaced from the opening portion and extends continuously from the gas flow path portion, wherein the gas flow path portion comprises a narrow throated gas passageway between the opening portion and the occupant restraint portion, wherein the gas flow path portion includes at least one flow-constricting penetrating portion or joint portion disposed adjacent to said opening portion, which constricts and regulates the gas flowing into the air bag, and wherein a size of said at least one penetrating portion being selected as to achieve an appropriate flow rate of the gas from the inflator into the air bag based on size of the air bag.

In contrast, the penetrating portion of Shiota is a relatively large member extending through the main occupant restraining portion of the airbag. At such location the penetrating portion is far removed from the narrow throated portion of his air bag and is not concerned with achieving an appropriate flow rate of gas into the air bag. Applicant respectfully submits that these distinctions are significant and not matters of obvious variations. For example, it is discussed at the paragraph bridging pages 8-9 of the substitute specification that the total cross sectional area of the opening portion (as reduced by the presence of the penetrating or joint portion(s)) should not be less than certain values given concerns specific to the inflation speed of the air bag and possible damage/rupture of the air bag at the gas flow path portion. These are not concerns with Shiota's penetrating portion, nor are such concerns obvious in view of Shiota's disclosure.

Further, applicant also respectfully submits that a desirable and unobvious simplicity is achieved by the present invention in comparison to the penetrating portion of Shiota, e.g., providing the penetrating and joint portions in the gas flow path portion as claimed permits these portions to be relatively small and involve less materials than Shiota's penetrating portion, including only additional stitching for the joint portions. As has long been recognized, simplicity, particularly in an old and crowded art argue for rather than against patentability. In re Meng, 492 F.2d 843, 181 USPQ 94 (CCPA 1974).

On the other hand, Maruyama's guide members also extend significantly into the occupant restraining portion of the airbag, and are not involved with achieving an appropriate flow rate of gas into the air bag. Further, the guide members do not appreciably reduce the volume of any gas flow path portion.

Still further, JP '940 does not include a *single opening portion* at one end thereof, nor an occupant restraining portion at an opposite closed end thereof with a *single continuous open space therein* when inflated with the gas. Rather, as shown and disclosed by JP '940, his air bag has a pair of opening portions at opposite ends thereof, with the occupant restraining portion defined by the large intermediate section provided between the two ends, and which is doubled over when the two ends are connected to respective injecting ports 4 of the inflator 3. Still further, there is no suggestion or indication in JP '940 that the size of the end portions 2 and ports 4 are variously selected based on a size of the air bag.

Applicant further respectfully submits that the applied references, including any hypothetical combination of the air bags of JP '940 and Maruyama, do not include or make obvious the features defined in amended claims 5 and 18-23. For example, none of the references disclose a joint portion formed by sewing or directly connecting uppermost

and lowermost exterior surfaces or panels of the gas flow path portion together. In this regard, applicant respectfully traverses the Examiner's interpretation of the air bag of JP '940 as including a joint portion including a connection between the top and bottom of the bag in the gas flow path portion (as defined by the Examiner), because JP '940 does not disclose any such connection, but merely that the bag is doubled over.

Again, applicant respectfully submits that the discussed distinctions are significant and unobvious in view of JP '940. Because the claimed invention had a single opening portion, it is simple and more economic to manufacture and assemble than the pair of end openings and associated ports of the JP '940 system. Also, because of the significant overlap of material at the middle of the air bag where doubled over, the airbag uses more material than that of the claimed invention for a comparably sized bag.

Based on the foregoing, it is respectfully submitted that rejections of claims 1-3, 5-9, and 12-23 based on the Shiota, Maruyama and JP '940 references are believed to be overcome, and it is respectfully requested that the rejections be reconsidered and withdrawn.

Conclusion

In conclusion, applicant has overcome the Examiner's objection and rejections as presented in the Office Action; and moreover, applicant has considered all of the references of record, and it is respectfully submitted that the invention as defined by each of the present claims is clearly patentably distinct thereover.

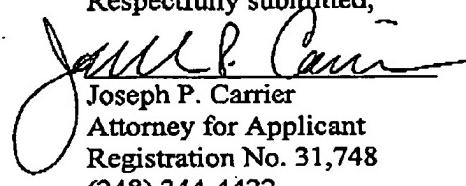
The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application,

applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

Respectfully submitted,


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